

IN THE ABSTRACT

Please replace the present abstract with the following:

ABSTRACT OF THE DISCLOSURE

Gated field emission devices and systems and methods for their fabrication are described. A ~~method includes growing a substantially vertically aligned carbon nanostructure, the substantially vertically aligned carbon nanostructure coupled to a substrate; covering at least a portion of the substantially vertically aligned carbon nanostructure with a dielectric; forming a gate, the gate coupled to the dielectric; and releasing the substantially vertically aligned carbon nanostructure by forming an aperture in the gate and removing a portion of the dielectric.~~ A gated field emission device includes a substantially vertically aligned carbon nanostructure coupled to a substrate; a dielectric coupled to the substrate and surrounding at least a portion of the substantially vertically aligned carbon nanostructure; a gate coupled to the dielectric, the gate including an aperture substantially aligned with the substantially vertically aligned carbon nanostructure; another dielectric coupled to the gate, the another dielectric including a conduit substantially aligned with the substantially vertically aligned carbon nanostructure; and a focusing electrode coupled to the another dielectric, the focusing electrode including another aperture substantially aligned with the substantially vertically aligned carbon nanostructure. The dielectric, the gate, the another dielectric and the another aperture define a well that circumscribes the substantially vertically aligned carbon nanostructure.